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**To:**

Board of Patent Appeals  
and Interferences  
Case 2009-1853

Alexandria, VA  
22313-1450

From: Dr. Mitchell Swartz  
Weston, MA 02493

**RESPONSE UNDER 37  
CFR 1.116**

**EXPEDITED  
PROCEDURE**

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**Fax:**

FAX 571 273 0052

**Date:**

August 27, 2011

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**Phone:**

Pages: 48 (Part 3)  
(including this page)

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**Re:**

REPLY BRIEF

**CC:**

**Case Number Redacted  
by Examiner Palabrica**

Thank you.

DATED August 26, 2011

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Serial No : 09/ 748,691 12/26/2000 Filed: 10/20/2009

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evidence in the Final, typed in simple English, explaining how the Applicant's arguments have been considered in any way whatsoever. In almost every single case of relevant arguments from the 111 page March 3, 2008 Response, by the pro se Applicant, to the erroneous, disingenuous, Office Communication of December 7, 2007, they have been ignored.

214. As the Verner Declaration states:

**"It is clear that the Examiner has failed to respond substantively to many of Dr. Swartz's arguments. The Examiner should have reasonably considered Dr. Swartz's replies, but did not."**

As the Swartz Declaration states,

**"7. The Examiner has systematically ignored the specification, just as he has ignored the arguments, the Declarations, the Exhibits, the published papers, the Office rules, and federal law. There is the appearance of impropriety in the actions of the Office and Dr. Palabrica."**

215. The Examiner has been disingenuous. He knows that his combination of the other cited art is an improper one, because he misstates the present invention, and there is no showing in the references themselves that they can or should be so combined to produce any result such as produced by the above-entitled invention.

216. The Examiner has not given any foundation, in fact or law, to explain his failures to address the published relevant paper(s) and the un rebutted Declarations with specificity, precision, and substantive address to their points.

The Examiner should admit that said features are not "incredible" but can be elicited when using the teachings of the original specification and claims. Furthermore, there is documented existence of these reactions and the preferred environment in which the present invention does operate. Furthermore, there is documented existence of these reactions and the preferred environment in which the present invention does operate. The number of papers in this field demonstrating a need today for measuring loading confirms both the "operability" and "utility", and therefore "enablement", of this invention.

**Fact 28: 2-Tiered Treatment Means Discrimination**

217. The Office has ignored controlling authorities including the 14th Amendment, requiring an impartial tribunal [28 U.S. Code Section 144, *Mayberry v. Penna.*, 91 S.8.; *Bloom v. Illinois*, 88 Ct. 499 S.Ct. 1477; *Duncan v. Louisiana*, 88 S.Ct.1444] and equal protection. In the light of the previously un rebutted Declarations [hereby again submitted] there appear to be violations of the 14th Amendment's "equal protection" clause [*Frontiero v. Richardson*, 93 S.Ct. 1736, 411 U.S. 677; *Weiss v. Weiss*, 436 N.Y.S. 2d. 862, 52 N.Y. 2d. 170 (1981)] with serious implications [*Gass v. Lopez*, 95 S. Ct 729; *Wood v. Strickland*, 95 S Ct 9S2; *U.S. v. Price*, 86 S Ct 1152, 1157, Footnote 7; *Griffin v. Breckenridge*, 91 S Ct 179D; *Gamez v. Toledo*, 42 U.S.C.§1983, and *Bivens v. Six Unknown Named Agents of Fed. Bureau of Narcotics*].

The Office has ignored controlling authorities including Article I, Section 2, by ignoring that Applicant is entitled to the privileges and immunities of citizens in the other states.

The Office has ignored controlling authorities including the reasoning of the Supreme Court in *United States v. Nixon* (1974) that all are "equal under the law".

218. The Office ignores that cold fusion patents in the very same field not allowed here issued No such demand was made of these other patents. Thus, the Office unfairly demonstrates two standards of review proving discrimination. The above conclusively proves the selective application of law -- and capricious attitude towards the Applicant of the above-entitled application -- by the Patent Office. Egregiously, this is a dual-tiered system which the Office has set up to usurp constitutional rights of the Applicant and certain American citizens with surnames, religion, or skin color not acceptable to the US Patent Office.

**Fact 29: Office Ignored Its Own Witness To Harass the Applicant**

219. It is an uncontested fact that the Office ignores its own witnesses. There is reputable evidence of record in the Office's past papers (now removed after they were cited) to support ... that the invention as disclosed is capable of operating as indicated and capable of providing a useful output.

Most importantly, the Office even ignores its own qualified witness, such as Dr. Rehn, U.S. Navy, who said

**"Perhaps the clearest scientific fact, at this time, is the hardest for physicists to accept: nuclear reactions apparently do occur in deuterium-loaded Pd, Ti, and probably in other solids."**

[Office of Naval Research Asian Office, NAVSO P-3580, Vol. 18, Jan. 1993].

220. Proof of operability of these inventions include the Declaration of operability by the late Dr. Mallove and the others, which are in the Appendices of the Appeal Brief, and also application SN 10/646,143, application SN 09/568,728, application SN 09/573,381, application SN 09/748,691, application SN 09/748,695, and application SN 09/750,765 (\*\*).

\*\* As the United States Court of Customs and Patent Appeals has stated:

**"An original specification can also incorporate by reference subject matter disclosed in another patent application which is pending before the Patent Office and hence unavailable to the public."**

[In re JOLLES; United States Court of Customs and Patent Appeals,  
1980, 628 F.2d, 1322, 206 USPQ 885]

### **Fact 30: The Office Ignores Constitutional and Congressional Directive**

221. The Office has ignored its controlling authorities beginning with Clause 8 of Section 8 [§8, cl. 8], Article I, which provides that "Congress shall have Power (t)o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries" by improperly eliminating an entire field involving energy and United States security.

The Office has ignored controlling authorities including Article I, Section 2, by ignoring that Applicant is entitled to the privileges and immunities of citizens in the other states. Specifically, the Examiner ignores that the Office has allowed selected cold fusion patents in the very same field not allowed here [eg. Widom and Larsen, Czirr(5,231,290), Westphal(5,215,631), Ahern (5,411,654), Patterson(5,036,031), (5,318,675), (5,372,688), (5,036,031); Aspden, UK-GB 2,231,195B]. This is a dual-tiered system which the Office has set up to usurp constitutional rights of the Applicant and American citizens.

222. The Office has rejected that the US Congress has mandated encouragement of science, and the Office's actions are inconsistent with the Patent Act of 1793, authored by Thomas Jefferson, which defined statutory subject matter as "any new and useful art, machine, manufacture, or composition of matter" Act of Feb. 21, 1793, 1, 1 Stat. 319, and with the Act which embodied Jefferson's philosophy that "ingenuity should receive a liberal encouragement." [447 U.S. 303, 309].

223. The Office has rejected that the US Congress has mandated progress. "The patent laws (reflect) this Nation's deep-seated .... need to encourage progress." [DIAMOND v. CHAKRABARTY, 447 U.S. 303 (1980), 447 U.S. 303, No. 79-136]

The Office has rejected that the Applicant is entitled to an impartial tribunal [28 U.S. Code Section 144, Mayberry v. Penna., 91 S.8.; Bloom v. Illinois, 88 Ct. 499 S.Ct. 1477; Duncan v. Louisiana, 88 S.Ct.1444] and equal protection of the laws and fair application of the standards of review.

**Fact 31: UNDISPUTED FACT: The Office Planned from the Beginning to Discriminate**

224. Why did the Patent Office fail to log all the relevant submitted Declarations in some of Applicant's cases before the Board of Patent Appeals?

The recently discovered SAW Memorandum has revealed that the Examiner and his group Art have acted in conspiratorial behavior encouraging systematic violations of 18 U.S.C. §1001.

The Office has used any means to harass the Applicant including false statements on federal documents mailed across state lines.

The Office has used any means to harass the Applicant including hiding and destroying publications and Declarations (Evidence).

The Office has used any means to harass the Applicant including being disingenuous about the present invention, the arguments of Applicant, and about the Declarations.

The Office has used any means to harass the Applicant including removing Evidence from the file folder (only caught in the federal court AFTER the Board of Patent Appeals).

The Office has used any means to harass the Applicant including the withholding of pro se Appeal Briefs from the Board of Patent Appeal.

**Fact 32: Secret Predetermined Plan to not Allow**

225. It is an uncontested fact that the Office has worked against the field of cold fusion, and every invention associated with it, targetting the Applicant while cashing every check over 22 years (tens of thousands of dollars paid by the Applicant alone for governmental service not rendered).

The Office has been disingenuous to both the Board of Patent Appeals AND the federal court by previously withholding Exhibits and Declarations.

The Office has systematically abused the Applicant by denying the right to patent an invention.

The Office cannot honestly admit there is no utility for an invention measuring energy-production and efficiency.

The Office's behavior has the appearance of impropriety.

The Office has removed Evidence from Applicant's files consisting of over 300 papers, over 30 of his own peer-reviewed papers (several published by the American Nuclear Society), and other art and Declarations demonstrating the PTO is wrong in their opinion.

226. The Applicant has repeatedly, and unsuccessfully, explicitly requested substantive, direct answers with specificity regarding the Office's basis in fact or law for its systematic errors, claims, opinions, and two-tiered system heralding discrimination.

The Office has never felt it necessary to respond with substance to each cited Declaration in a substantive, relevant, complete, and precise way. The un rebutted Declarations decimate the Office's opinion.

The Office's denial of the patent in their light heralds discrimination, disingenuity, and removal of due process and civil rights.

### **Fact 33: Appearance of Impropriety in the Office**

227. The Office's actions and behavior do not comport with any notion of fair play or justice.

The Office's action are improper and void of compliance with the preexisting standards for review for patentability with respect to resolving operability by the Office. By ignoring standards of patentability, the decision is arbitrary, selective, and capricious and encourage discrimination and civil rights violations under color of law [U. S. v. Price, 86 S. Ct. 1152, 1157] including due process and Equal protection under the law [5Th Amendment and 14th Amendment] and other "equal protection" clauses [Frontiero v. Richardson, 93 S.Ct. 1736, 411 U.S. 677; Weiss v. Weiss, 436 N.Y.S. 2d. 862, 52 N.Y. 2d. 170 (1981)], with serious possible implications [Gass v. Lopez, 95 S. Ct 729; Wood v. Strickland, 95 S Ct 9S2; U.S. v. Price, 86 S Ct 1152, 1157, Footnote 7; Griffin v. Breckenridge, 91 S Ct 179D; Gamez v. Toledo, 42 U.S.C. §1983, and Bivens v. Six Unknown Named Agents of Fed. Bureau of Narcotics].

228. By systematic failure to use a uniform standard of review for patentability, by ignoring Declarants, and by ignoring its own rules for patentability, the Office has denied due process and thereby Equal protection under the law [United States v. Nixon, 418 U.S. 683 (1974)].

**SUMMARY OF FACTS: Operability Under U.S.C. 112, first paragraph**

229. There is compliance with 35 U.S.C. §112, first paragraph. The original specification and claims 1-20 (all claims) taught the subject matter defined by each of the rejected claims, set forth the best mode contemplated, and did distinctly point out and claim the subject matter which constitutes the invention. This was corroborated by un rebutted declarations, and supported by a peer-reviewed publication of additional probative reference. These Declarations and Exhibit corroborate the Applicant, and prove, that operability and utility were taught in the original specification and claims. The present invention has operability and utility based upon the record, and has been validated based upon Exhibits and, more importantly, Declarations in the record - which remain ignored. The original specification and claims complied and conformed with the Patent Act.

230. The Applicant patently taught in the original specification and claims how his apparatus works and claimed the invention which solves a long-standing problem. The Applicant taught the subject matter defined by each of the rejected Claims including how his apparatus and method works, distinctly pointed out and claimed the subject matter which constitutes the invention, included specification and drawings describing the subject matter as defined by each of the claims, wrote an adequate enabling disclosure with specification and drawings which set forth the best mode contemplated by the inventor for carrying out the invention as described by the above-entitled application which enable any person skilled in the art to make and use the subject matter as defined by each of the claims, and thus complied and conformed with 35 U.S.C. §112, first paragraph, of the Patent Act.

231. Applicant has been willing to reveal to the public the substance of his discovery and "the best mode ... of carrying out his invention," 35 U.S.C. 112, and should be granted "the right to exclude others from making, using, or selling the invention throughout the United States," for a period of 17 years. 35 U.S.C. 154. In return, the federal patent system is supposed to encourage the creation and disclosure of new, useful, and non-obvious advances in technology and design in return for the exclusive right to practice the invention for a period of years [United States v. Dubilier Condenser Corp., 289 U.S. 178, 186 -187 (1933)].

## LAW

232. These peer-reviewed publications, Exhibits and Declarations prove Applicant was correct on the filing date of the application [In re Hogan, 559 F.2d 595, 60S, 194 USPQ 527, 537 (CCPA 1977)]. They prove that the Applicant taught the subject matter defined by each of the rejected Claims including how his apparatus and method works, set forth the best mode contemplated, distinctly pointed out and claimed the subject matter which constitutes the invention, wrote an adequate enabling disclosure, and thus complied and conformed with 35U.S.C. §112, first paragraph, of the Patent Act. This was done so that an artisan, or those skilled in the art, could practice it without undue experimentation [In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988), citing with approval Ex parte Forman, 230 USPQ 546, 547 (Bd. Pat. App. & Int. 1986)]. Applicant has now demonstrated that his invention as claimed was, and is, adequately described to one skilled-in-the-art. Said Declarations are sufficient in their factual content with respect to the significant evidence, and prove that the Examiner is in clear error. By submitting said peer-reviewed publications, showing the Applicant is correct, and said Declarations containing relevant facts by probative witnesses, the Applicant has now undertaken the full burden coming forward with his evidence as required [In re Oetiker, 977 F.2d at 1445, 24 USPQ2d at 1444].

233. Ignored (along with the evidence) yet again in the Examiner's Brief are the following standards of review. These were cited previously and no reason has been given by the Examiner for his deviation from said standards of review:

The Examiner ignores In re Prater, 415 F.2d 1393, 162 USPQ 541 (CCPA 1969)] which requires the Examiner to refer to the claimed invention as the focus of its Office communication, but it did not when drifting toward criticism of "FP".

234. The Examiner ignores In re Morris which requires that the Examiner must respond to what Applicant meant, but he did not.

235. The Examiner ignores In re Hogan [559 F.2d 595, 60S, 194 USPQ 527, 537 (CCPA 1977)] which discusses that enablement must be judged on the original specification and claims, but in this Communication it was not.

236. The Examiner ignores In re Fouche [439 F.2d 1237, 1243, 169 USPQ 429, 434, (CCPA 1971) and In re Zletz [893 F.2d 319, 13 USPQ2d 1320 (Fed. Cir. 1989)] which state that an invention (in structure, operation and composition) is defined by the claims and the original specification.



237. The Examiner ignores *In re Gazave*, 54 CCPA 1524, 379 F.2d 973, 154 USPQ 92 (1967)] and *In re Chilowsky* [43 CCPA 775, 229 F.2d 457, 108 USPQ 321 (1956)] which require consideration of the material which Applicant supplied and cited.

238. The Examiner ignores *In re Oetiker*, 977 F.2d at 1445, 24 USPQ2d at 1444 which requires the Examiner to substantively respond with a *prima facie* case of unpatentability. However, after the submission of Swartz, 1998, Improved Electrolytic Reactor Performance Using  $\pi$ -Notch System Operation and Gold Anodes, Transactions of the American Nuclear Society, Nashville, Tenn 1998 Meeting, (ISSN:0003-018X publisher LaGrange, Ill) 78, 84-85 and Swartz(97), other peer-review papers, and the Declarations, the burden shifts back to the Office and can only be discharged by the Examiner "presenting evidence or reasons why persons skilled-in-the-art would not recognize in the disclosure a description of the invention defined by the claims" [Wertheim, 541 F.2d at 263, 191 USPQ at 97]. Applicant asks that this be done with specificity, substantivity, and with explicit reference, and in detail with full findings of fact.

239. The Examiner ignores *In re Brana* and *In re Eltgroth*, 419 F.2d 918, 164 USPQ 221 (CCPA 1970) which demand that the Examiner must establish a reason to doubt an invention's asserted utility, and the loading of an isotopic fuel into a material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material and means to extract product using magnetic field inhomogeneity, based differential magnetic susceptibilities [cf. Swartz and Straus Declarations] is not 'incredible' or 'unbelievable' like the Examiner appears to purport. This invention is quite believable.

240. The Examiner ignores *In re Vaeck* [947 F.2d 488, 495-96, 10 USPQ2d 1438, 1444 (Fed. Cir. 1991)] which states that an enablement rejection under section 112, ¶1 is only appropriate where the written description fails to teach those skilled-in-the-art, like the Declarants, to make and use the invention.

241. The Examiner ignores Rule 132 which requires Applicant's solid, substantial, and timely, evidence submitted against the Examiner's rejections be considered because "(p)atentability is determined on the totality of the record, by a preponderance of the evidence with due consideration to persuasiveness of argument." [Id. at 1445, 24 USPQ2d at 1444]. Applicant has published his inventions, proving that this invention

was correctly taught in the original specification and claims, on the filing date of the application.

242. The Examiner has ignored controlling authorities including Clause 8 of Section 8, Article I, by improperly eliminating an entire field involving energy and United States security.

243. The Examiner has ignored controlling authorities including Article VI, by interfering laws passed by Congress [DIAMOND v. CHAKRABARTY; 447 U.S. 303, 309] including that patentable statutory subject matter spans "anything under the sun that is made by man" [S. Rep. No. 1979, 82d Cong., 2d Sess., 5 (1952); H. R. Rep. No. 1923, 82d Cong., 2d Sess., 6 (1952)].

244. The Examiner has ignored controlling authorities including Article I, Section 2, by ignoring that Applicant is entitled to the privileges and immunities of citizens in the other states. Specifically, the Examiner ignores that the Office, Europe and Japan have allowed selected other patents in the very same field not allowed here [Czirr(5,231,290), Westphal(5,215,631), Ahern(5,411,654), Patterson(5,036,031), (5,318,675), (5,372,688), (5,036,031); Aspden, UK-GB 2,231,195B]. This is a dual-tiered system. No such demand was made of these other patents. There appear to be two different standards of review. Therefore, the Examiner has ignored controlling authorities including the reasoning of the Supreme Court in United States v. Nixon (1974) that all are "equal under the law". Hence, the Examiner has ignored controlling authorities including the 14th Amendment, requiring an impartial tribunal [28 U.S. Code Section 144, Mayberry v. Penna., 91 S.8.; Bloom v. Illinois, 88 Ct. 499 S.Ct. 1477; Duncan v. Louisiana, 88 S.Ct.1444] and equal protection. In the light of the previously unrebutted Declarations [hereby again submitted] there appear to be violations of the 14th Amendment's "equal protection" clause [Frontiero v. Richardson, 93 S.Ct. 1736, 411 U.S. 677; Weiss v. Weiss, 436 N.Y.S. 2d. 862, 52 N.Y. 2d. 170 (1981)] with serious implications [Gass v. Lopez, 95 S. Ct 729; Wood v. Strickland, 95 S Ct 9S2; U.S. v. Price, 86 S Ct 1152, 1157, Footnote 7; Griffin v. Breckenridge, 91 S Ct 179D; Gamez v. Toledo, 42 U.S.C.§1983, and Bivens v. Six Unknown Named Agents of Fed. Bureau of Narcotics].

### **Legal Arguments - Claim Rejections under "DUAL REJECTION"**

255. "Enablement" is a legal decision, whereas "operability" and "utility" are factual matters. In Patent Law, 35U.S.C. §112, ¶1 and 101 are often linked - dual rejection. That dual rejection here, today, is satisfied for any of the several reasons listed above.

**"The how to use prong of ¶112 incorporates as a matter of law the requirement of 35U.S.C. §101 that the specification disclose as a matter of fact a practical utility for the invention."**

[In re Ziegler, 992 F.2d 1197, 1200, 26 USPQ2d 1600, 1603 (Fed. Cir. 1993)].

256. "Enablement" is a question of law (confer In re Fouche [439 F.2d 1237, 1243, 169 USPQ 429, 434, (CCPA 1971)]), or present evidence for the shifts and drift. 35 U.S.C. 112, first paragraph deals with 'operability' issues. 35 U.S.C. 101 deals with 'utility' issues. When both fact issues are met, the legal judgment of 'enablement' results.

### **CONCLUSION: Operability Under U.S.C. 112, first paragraph**

257. In summary, and most importantly, Examiner should have considered, and commented upon substantively, the submitted evidence including:

**#1) Declarations from scientists of ordinary skill-in-the-art, who considered the specification and stated that the written description was sufficient. Applicant is acknowledged by those involved in the state-of-the-art (Lin 97, Fox 97, Fox 96A, Rothwell 96). Said evidence shows that the Office's position is in error.**

**#2) The published peer-reviewed scientific articles [including Swartz, 1998, Improved Electrolytic Reactor Performance Using  $\pi$ -Notch System Operation and Gold Anodes, Transactions of the American Nuclear Society, Nashville, Tenn 1998 Meeting, (ISSN:0003-018X publisher LaGrange, Ill) 78, 84-85 and Swartz(92, 94A, 97A, 97C)].**

258. By ignoring such evidence consisting of Declarations, and peer-reviewed publications, the Examiner also ignores In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988) which indicates that #1 or #2 are sufficient to demonstrate that the specification provides an adequately written description of the subject matter, including how to operate the invention, and claimed the invention so that an artisan, or those skilled-in-the-art, could practice it without undue experimentation. Either #1 or #2 prove that enablement, utility, and validation. Together, #1 and #2 have been

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submitted and Applicant submits that these together corroborate enablement of the present invention both *de facto* and *de jure*.

259. Therefore, in accordance with the foregoing arguments, the Appellant has conformed with the requirements of sections 112 of the Patent Act, and reversal of the rejection of all claims is respectfully requested, as required by the statute (35 USC 112) because the specification and all claims are compliant under 35 U.S.C. 112, first paragraph, and because said claims contain subject matter which was described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, and because there is a written description in the specification able to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, toward possession of the claimed invention.

#### **ARGUMENTS - 35 USC §112 Second Paragraph - PURPORTED INDEFINITENESS**

260. The Office states,

*"Claims 1,5-8, 10-14 and 21-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellant regards as the invention. The claims are vague, indefinite and incomplete."*

The Examiner is not accurate for any of several reasons. Appellant respectfully notes that this was discussed in the previous Communication with the Examiner on pages 14 through 16 and also pages 91 through 95 where it was discussed through the prism of those skilled-in-the-art. Where is the Examiner's response?

261. For each rejection under 35 U.S.C. 112, second paragraph, the Appellant hereby does fully and completely specify the errors in the rejection and how the claims particularly point out and distinctly claim the subject matter which applicant regards as the invention.

262. First, simply put, all rejected claims (and all claims) conform with 35 U.S.C. 112, second paragraph. This can be shown any of many ways as discussed in detail below.

263. Second, the Examiner is shown to be wrong by Declarations, by publications, by even the federal decision and Board of Patent Appeal which had no trouble understanding the invention. As the Evidence makes obvious, putative "indefiniteness" under 35 U.S.C. §112, ¶2 has only been made by ignoring the reasoning of several decisions already in the record, ignoring the Office's own rules, and what those who were skilled-in-the-art at the time the original specification and claims were filed have stated [In re Morris, 96-1425 (Fed Cir, 18 Aug 1997)] in un rebutted Declarations [In re Marzocch (439 F.2d 220, 223, 169 USPQ 367, 369 (CCPA 1971)], which were timely submitted as required [In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992)], and which fully addressed all matters criticized by the Office regarding matters of fact.

264. Third, the Examiner is reminded that the Office's notion is flawed and the Office has a history of being overturned by the Board of Patent Appeals on this issue (confer '143). There IS definiteness because acceptability of the claim language depends on whether one of ordinary skill-in-the-art would understand what is claimed, and that is confirmed by the light of the specification, the Declarations, the Amicus Briefs (which were not allowed into the Court because of objections by the attorney for the Examiner) [Ex parte Porter, 25 USPQ2d 1144, 1145 (Bd. Pat. App. & Inter. 1992)] and the other corroboratory expert testimony [Ex parte Gray, 10 USPQ2d 1922, 1928 (Bd. Pat. App. & Inter. 1989)].

265. The appealed claims do not stand or fall together. Claims 1, 10, and 21 are separately patentable and do not stand or fall together because they are materially distinct with respect to 35 USC 112 second paragraph. Claims 1, 10, and 21 are separately patentable because they are not unduly multiplied, have separate limitations, and are required because the invention described by the original specification of the above-entitled application is very complex.

### **Claims are Compliant with 35 U.S.C. §112 ¶2**

#### **DefiniteNESS CORROBORATED by Language**

266. It is disingenuous for the Examiner to claim there is indefiniteness. "... **(I)ndefiniteness in claim language is of semantic origin**" [In re Hammack, 427 F.2d 1384 n.5, 166 USPQ 209 n.5 (CCPA 1970)] because indefiniteness is the opposite of definiteness. Definiteness is a characteristic of a patent claim in which claim language makes the scope of the claim clear to a person skilled in the art to which the invention pertains [MPEP 2173, MPEP 2173.02, MPEP 2173.05(a)]. Pursuant, to MPEP 2173, Applicant claimed with particularity, and did point out and distinctly claim the

invention. Applicant's claims are therefore definite because the claims are precise, clear, correct, and unambiguous to a person skilled-in-the-art and, therefore, there was definiteness. The specification did conclude claims particularly pointing out and distinctly claiming the subject matter. Applicant has fully complied with the definiteness requirement of the second paragraph of 35 U.S.C. §112. The original specification and claim adequately presented the claimed invention so that an artisan, or those skilled in the art, could practice it without undue experimentation [In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed.Cir.1988)].

#### **DefiniteNESS CORROBORATED by DECLARANTS**

267. The Examiner has not responded to the fact that Definiteness is proven by way of Applicant's previously-submitted expert testimony [Ex parte Gray, 10 USPQ2d 1922, 1928 (Bd. Pat. App. & Inter. 1989)], including Declarations and Amicus Curiae Briefs. The simple proof is that there has never been a problem for the Examiner in this regard, or with the Declarants who are skilled-in-the-art, or even with the court [In re Swartz 00-1107 and In re Swartz 00-1108]. The Examiner must accurately discuss the invention as it is actually taught in the original specification and claims. The claimed invention should be the focus of the definiteness requirement.

268. Definiteness is corroborated by the unrebutted Declarants which in the past have all been ignored, maligned, and misquoted by the Examiner. These Declarants (with probative value) have fully addressed all matters criticized by the Office [In re Gazave; In re Chilowsky; In Re Jolles]. The Declarants prove that a person of ordinary skill-in-the-art understood the Applicant to have been in possession of the claimed invention at the time of filing, and demonstrate that the original specification and claims were precise, clear, correct, and unambiguous [pursuant to MPEP 2173.05(a)].

#### **Undisputed Fact: Definiteness Corroborated by Unrebutted Declarations**

269. The above-entitled invention has obvious definiteness, as confirmed by the unrebutted Declarations. The Declarations and Amicus Curiae Briefs are relevant to the above-entitled action and are again cited, referenced, and incorporated, by the pro se litigant. There is substantial, vast, evidence of definiteness in the form of expert testimony from Drs. Chubb, Mallove, Fox, Bass, Swartz and Mr. Straus, Rotegard, and Valone and others with their substantial arguments. Attention is directed to the Amicus Curiae Brief of Hal Fox [5/8/02], Declaration of Hal Fox [5/16/95], Declaration of Hal Fox [8/14/01], Amicus Curiae Brief of Eugene Mallove [5/8/02], Declaration of Eugene Mallove [5/6/94], Declaration of Scott Chubb [8/13/01], Declaration of Mr.

Rotegard [5/15/94], Amicus Curiae Brief of Mr. Rotegard [2/21/01], Straus Declaration of [5/22/94], Straus Declaration [November 27, 1992], Amicus Curiae Brief of Drs. Edmund Storms [2/21/01], Amicus Curiae Brief of Talbot Chubb [2/22/01], and the Amicus Curiae Brief of Thomas Valone [2/24/01]. The Affiants each have probative value, and each was as discussed in their respective Declarations and Amicus Curiae Briefs. They were each shown to be qualified as an expert with respect to the subject matter to which they testified, such as the field in which the above-entitled invention does operate and in the normal lawful mode in which the U.S. Patent Office should operate.

Applicant has undertaken (again) the full burden of coming forward with his evidence before the Final, as required [In re Oetiker, 977 F.2d at 1445, 24 USPQ2d at 1444].

**Undisputed Fact #34: Definiteness Corroborated by Peer-reviewed Publications**

270. Definiteness is corroborated by Applicant's peer-reviewed publications which demonstrate acceptability of the claim language to those of ordinary skill-in-the-art. The publications are ignored by the Examiner who rejects the reasoning of Atmel Corp. v. Information Storage Devices Inc. [Fed. Cir., No. 99-1082, 12/28/99].

271. The usefulness of the original specification was demonstrated to be correct at the time of the original filing in Fusion Technology (of the American Nuclear Society) and elsewhere which demonstrate operability and utility [validation]. These include, but are not limited to, the following: Swartz (1998), Improved Electrolytic Reactor Performance Using  $\pi$ -Notch System Operation and Gold Anodes, Transactions of the American Nuclear Association, Nashville, Tenn 1998 Meeting, (ISSN:0003-018X publisher LaGrange, Ill) 78, 84-85, Swartz. (1997), Fusion Technology, 31, 63-74.

272. The Examiner has not responded to the fact that the peer-reviewed reference support definiteness [Swartz (1992), Swartz (1994A), SWARTZ (1994B), Swartz (1997A), Swartz (1997B), SWARTZ (1998A)] which prove understanding by one skilled in the art [Atmel Corp. v. Information Storage Devices Inc., Fed. Cir., No. 99-1082, 12/28/99].

◆

**Definiteness Corroborated by The Claims**

273. The proof of conformity with 35 U.S.C. 112, second paragraph can be understood by examining Claim 1.

Claim 1. In a process for producing a product using a material loaded with an isotopic fuel, a method to control the production of said product which includes in combination:

- applying an electric field to load said isotopic fuel to said material,
- loading said isotopic fuel into said material,
- applying a second electric field in a non-parallel direction to the first applied electric fields,
- producing redistribution of said isotopic fuel within said loaded metal,
- thereby controlling the product produced.

The process steps are able to each stand alone. They are easily understood as the Declarations prove. Each step is reasonable and has operability. Each step is able to each stand alone (MPEP 2111.02) with respect to operability. Compliance is obvious and demonstrated line by line - and the result is a method of considerable utility.

274. The Examiner has not responded to the fact that there is definiteness because the pending claims must be given the broadest reasonable interpretation consistent with the specification [In re Prater, 415 F.2d 1393, 162 USPQ 541 (CCPA 1969), also MPEP Section 2111 - Section 2111.01] and the specification stated the meaning of the terms in the claims [In re Zletz, 893 F.2d 319, 13 USPQ2d 1320 (Fed. Cir. 1989)]. Furthermore, there is definiteness because pursuant to 2173.05(a) the meaning of every term used in the claims was apparent from the prior art, cited art, and from the specification and drawings at the time the application was filed. There is definiteness because the claims must each be given the broadest reasonable interpretation consistent with that which one who is skilled-in-the-art would reach [In re Morris]. In this case, it is corroborated by both the Declarations, Amicus Briefs, and peer-reviewed publications.

**Definiteness Is Corroborated by The Specification which Defined the Terms in the Claims**

275. "... (I)ndefiniteness in claim language is of semantic origin" [In re Hammack, 427 F.2d 1384 n.5, 166 USPQ 209 n.5 (CCPA 1970)]

and to further continue, indefiniteness is the opposite of definiteness. Definiteness is a characteristic of a patent claim in which claim language makes the scope of the



claim clear to a person skilled in the art to which the invention pertains [MPEP 2173, MPEP 2173.02, MPEP 2173.05(a)].

276. The invention at issue in this case, '691, claimed by Claims 1, 5-8, 10-14, 21-30, is generally speaking a method to control hydrogen loaded into a metal such as palladium. Such loading by hydrogen occurs much as a sponge fills (loads) with water. This invention uses the hydrogen as a fuel, and for each device usually one isotope of hydrogen (protium or deuterium) is chosen (loaded into nickel or palladium, respectively).

The invention is a method to control the production of the desired products (such as heat) which includes in combination loading the hydrogen using a first applied electric field, and then at a later point in time applying a second electric field to redistribute said isotopic fuel within said material, with means to obstruct the flow of the loaded hydrogen.

Thus, as the original specification states (page 1, lines 7-8), this subject matter is defined as a method

**"to control reactions involving isotopic fuels within a material, such as hydrogen within palladium."**

As the original specification states (page 2, lines 16-21), the subject matter involves a loaded material ...

**"... such as palladium which has been electrochemically loaded with deuterium, but it has relevance as well, to hydrogen loading, nuclear fusion, and other reactions in loaded metals such as titanium or palladium filled with deuterium, and to the broader field of metallurgy and engineering in or about metals, including Groups IVb, Vb, and some rare earths."**

As the original specification states (page 1, lines 10-12), ...

**(t)he method and apparatus uses at least two non-parallel electric-fields to control the loading into the material and redistribution of the isotopic fuel within the material."**

As the original specification states (page 3, lines 4-14), the present invention is quite useful to those skilled in the art because present typical methods of loading have

**"... problems. First, the desired reactions are not well controlled. The proven difficulties of loading, the slow initiation of the desired reactions, and the difficulty in controlling the reactions has limited research and development of this technology. Second, prior to the desired reactions, the cathodes must be filled with deuterons to concentrations which require significant times of charging. Third, palladium, the preferred metal of these reactions, is expensive. Fourth, the rates of the desired reactions are very low in the steady state."**

In addition, the present invention, is useful, because it will enable any person skilled in the art to make and use the subject matter defined by each of the rejected claims (original specification states (page 3, lines 17-22) so as to

**'to control and enhance desired reactions. ... minimize the required quantity of expensive palladium used ... (and) maximize the local quantity of the hydrogen within the palladium.'**

The original specification teaches (page 4, line 26 through page 5, line 3), the best mode contemplated by the inventor of carrying out his invention

**" ...label 1 represents the metallic cathode, usually palladium in the preferred configuration. ... The label 7 represents the anode which in the preferred embodiment is composed of palladium. The label 6 represents the solution consisting in the preferred embodiment of a gel containing antidesiccant, in combination with LiOD, palladium salts, and heavy water (D<sub>2</sub>O). "**

As the original specification teaches (page 5, lines 5-12) for those skilled in the art the subject matter defined by each of the rejected claims.

**"The power supply and control unit consists of a current source and reactor control device as described in Swartz (1989) ... capable of filling the cathode with deuterium from an aqueous solution, or one enabling deuterated metals loaded by codeposition of deuterium and palladium."**

As the original specification teaches (page 5, lines 7-9), the best mode contemplated by the inventor of carrying out his invention

**"The application of said power source creates an applied electric field intensity which produces cation flow towards the cathode."**

The original specification (page 5, lines 9-12), continues with the teaching of

**"There results in the near cathode solution (labelled as 5 in figure 1) a buildup of deuterons, and a low dielectric constant (gas bubble) layer. The bubbles are labelled as number 10 in figure 1. There may be spikes or on the cathode (labelled as 11 in figure 1)."**

The original specification teaches (page 5, lines 14-17), the best mode contemplated by the inventor of carrying out his invention using the first applied electric field intensity (referring to the figures).

**"Figure 2 is a crossectional drawing .... (t)his device has two orthogonal applied electric fields. The first (labelled E-field number 1 in the the figure) is that which is applied to charge the palladium with deuterons."**

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The original specification continues (page 5, lines 17-22) with the best mode contemplated by the inventor of carrying out his invention using the second applied electric field intensity.

**"The second applied electric field intensity is delivered after full charging has been achieved. In the figure the anode and cathode are labelled as 7 and 1. The electrolyte solution or gel is labelled as 6. The connections for the first electric field are labelled as 81 and 82. The connections for the second electric field are labelled as 85 and 86. The mechanical casing is labelled 20."**

The original specification teaches (page 5, lines 23-25) the best mode contemplated by the inventor of carrying out his invention with respect to the impermeable barrier (referring to the figures).

**"The deuteron impermeable barrier is comb-shaped in this preferred configuration, and is labelled 55 in figure 13."**

The original specification teaches (page 6, lines 1-5) and elaborates for those skilled in the art to make and use the subject matter defined by each of the rejected claims.

**"The cathode in this preferred configuration is divided into parallel slabs. Between these slabs alternate deuteron-impermeable barriers. Application of the second electric field causes the deuterons already loaded in the cathode to redistribute, but the deuteron-impermeable barrier(s) act to enhance the desired reactions."**

As the original specification teaches (page 6, lines 7-13), the best mode contemplated by the inventor of carrying out his invention

**"Each device is equipped with orthogonal applied electric fields. The second applied electric field intensity is delivered after full charging. These devices each contain a cathode (labelled 1), intradevice gel containing lithium and palladium deuterioxide (labelled 6), and anode (labelled 7)."**

The original specification teaches (page 7, lines 1-4), the best mode contemplated by the inventor of carrying out his invention

**"The result is the piling up of deuterium at the deuteron-impermeable barriers (labeled 55). The heat energy is directed out via the the heat pipes and the thermal bus."**

In one embodiment, as the original specification continues, detailed instructions are taught for producing the desired result (page 6, lines 15-24),

**"These CAM devices are inserted, similar to a fuse onto a holding board, held in place by clips ... The three CAM device are connected to a microprocessor control system... Said apparatus has an electrical bus to connect the anodes which are connected to the anodic connectors (labelled**

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82). Said apparatus has an electrical bus to connect the cathodes ... The cathodic system buses (106 and 107) are electrically shorted together during the deuterium charging."

In another embodiment, as the original specification teaches, the heat product is removed (page 6, lines 26-28),

"Said apparatus has a thermal bus connected to the heat pipes which are held in a mechanical connecting system (labelled 20)."

277. The original specification describes the subject matter defined by each of the rejected claims, and enables any person skilled in the art to make and use the subject matter defined by each of the rejected claims, and sets forth the best mode contemplated by the inventor of carrying out his invention.

#### **Additional REASON OVERCOMING THE EXAMINER'S POSITION - DEFINITENESS PROVE BY OTHER REJECTIONS**

278. Applicant notes to the Examiner that there had to have been definiteness because the Examiner could not have made the previous rejections under 35 U.S.C. 102 had the invention truly been without definiteness. Applicant reserves the right to Petition this matter, especially in the light of the un-rebutted ignored Declarations.

#### **DEFINITENESS SUPPORTED BY THE Office Rules**

279. The Examiner has not responded to the fact that there is definiteness consistent with Office Rules. The preamble of claim 1 recites the purpose of the process, and the process steps are able to stand alone (MPEP 2111.02). Pursuant to 2173.05(b), the fact that claim language may not have been precise cannot automatically render the claim indefinite under 35 U.S.C. 112, second paragraph [Seattle Box Co., v. Industrial Crating & Packing, Inc., 731 F.2d 818, 221 USPQ 568 (Fed. Cir. 1984)].

**Undisputed Fact: Definiteness Is Corroborated by the court ('970)**

280. Definiteness is corroborated by the fact that this was understood by the Previous Examiner Wasil, the many Declarants, and even the Federal Appellate Court and Board of Patent Appeals. The previous Examiners (and there have been several) have used these words for more than two decades without any trouble -- until the matter was overhauled tongue-in-cheek and nunc pro tunc by the present Examiner. It is disingenuous for the Examiner to claim there is indefiniteness in the light of the many missives with the previous Examiner, Daniel Wasil, and in the light of the peer-reviewed cited publications, and in the light of the Declarants, affiants, and Amicus Curiae who are skilled-in-the-art, and especially in the light of the federal court which had no trouble understanding the invention.

281. Applicant obeyed the Examiner and submitted Amendments as he demanded. The words "heat" and "nuclear" were only added after the Examiner demanded it in his previous Communication, and they are --in fact-- exactly consistent with the Examiner's very own comment where he said what this invention involved. The entire original specification and claims involved heat and heat removal and the like.

**THE EXAMINER'S SUGGESTION FOR THE CHANGE:**

*"Claims 1, 10 and 21 are vague, indefinite and incomplete as to what is actually the product. (Note this specific rejection that applied to previous claims 1-14 was not addressed in Applicant's response to the previous Office Action)."*

[Examiner Palabrica, previous Communication to Applicant, 2/3/03]

282. To comply pursuant to the Examiner's suggestion, Claim 1 was amended in the Applicant's previous response of March 24, 2003, as follows:

1. (Amended) **In a process for producing heat or a nuclear product using a material loaded with an isotopic fuel, a method to control the production of said product which includes in combination:  
applying an electric field to load said isotopic fuel to said material,  
loading said isotopic fuel into said material,  
applying a second electric field in a non-parallel direction to the first applied electric fields,  
producing redistribution of said isotopic fuel within said loaded metal,  
thereby controlling the product produced.**

The change was minor, was in response to the Examiner (supra), and involved NO NEW MATERIAL and is consistent with Examiner's own statement in his previous Communication to Applicant dated 2/3/03.

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**THE EXAMINER'S STATEMENT PROVING THIS IS NOT NEW MATERIAL**

*"In the current application the Applicant does not define the products of the claimed process and apparatus....the only possible "products" that can be formed in the claimed invention are nuclear fusion products. "*

[Examiner Palabrica, previous Communication to Applicant, 2/3/03]

283. Therefore, given the Examiner's own statement (supra), and the original specification and claims consistent with this very material, and the entire previous docket with Examiner Wasil discussing this material, and the submitted Declarations discussing this material, truthfulness, and the normal standards of review, demand that this not be regarded as new material. For the Examiner to call "heat" and "nuclear" products "new" i) AFTER HE DEMANDED IT and ii) when they are both in the original specification and claims, is --with all due respect-- disingenuous.

284. Next, attention of the Examiner is directed to claim 5. The word "said" replaced the word "the" after the Examiner demanded it in his previous Communication.

**THE EXAMINER'S SUGGESTION FOR THE CHANGE:**

*"Claims 5 and 22 recite The limitation "the group". There is insufficient antecedent basis for this limitation in the claims."*

[Examiner Palabrica, previous Communication to Applicant, 2/3/03]

285. To comply pursuant to the Examiner's suggestion, Claim 5 was amended in the Applicant's previous response of March 24, 2003, as follows:

Claim 5 has been amended as follows:

5. (Amended) **In a method as in claim 1, where said ~~the~~ isotopic fuel is a member of the group consisting of an isotope of hydrogen, boron, lithium, or potassium.**

The change was minor, and was in response to the Examiner (supra), and involved NO NEW MATERIAL.

286. Next, attention of the Examiner is directed to claim 10. The words "heat" and "nuclear" were only added after the Examiner demanded it in his previous Communication, and they are --in fact-- exactly consistent with the Examiner's very own comment where he said what this invention involved. The entire original specification and claims involved heat and heat removal and the like.

114

**THE EXAMINER'S SUGGESTION FOR THE CHANGE:**

*"Claims 1, 10 and 21 are vague, indefinite and incomplete as to what is actually the product. (Note this specific rejection that applied to previous claims 1-14 was not addressed in Applicant's response to the previous Office Action).*

[Examiner Palabrica, previous Communication to Applicant, 2/3/03]

287. To comply pursuant to the Examiner's suggestion, Claim 10 was amended in the Applicant's previous response of March 24, 2003, as follows:

10. (Amended) **In a process for producing heat or a nuclear product using a material by a reaction, a method to control the redistribution of isotopic fuel loaded into said material which includes in combination:  
applying an electric field to load said isotopic fuel into said material,  
applying a second electric field to said material loaded with said isotopic fuel,  
thereby effecting redistribution of said isotopic fuel.**

The change was minor, was in response to the Examiner (supra), and involved NO NEW MATERIAL and is consistent with Examiner's own statement in his previous Communication to Applicant dated 2/3/03.

**THE EXAMINER'S STATEMENT PROVING THIS IS NOT NEW MATERIAL**

*"In the current application the Applicant does not define the products of the claimed process and apparatus....the only possible "products" that can be formed in the claimed invention are nuclear fusion products. "*

[Examiner Palabrica, previous Communication to Applicant, 2/3/03]

288. Therefore, given the Examiner's own statement (supra), and the original specification and claims consistent with this very material, and the entire previous docket with Examiner Wasil discussing this material, and the submitted Declarations discussing this material, honesty and the normal standards of review demand that this not be regarded as new material. For the Examiner to call "heat" and "nuclear" products new i) AFTER HE DEMANDED IT and ii) when they are both in the original specification and claims, is --with all due respect-- improper.

289. Next, attention of the Examiner, and if necessary Commissioner and Court, is directed to claim 21. The words "heat" and "nuclear" were only added after the Examiner demanded it in his previous Communication, and they are --in fact-- exactly consistent with the Examiner's very own comment where he said what this invention involved. The entire original specification and claims involved heat and heat removal and the like.

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**THE EXAMINER'S SUGGESTION FOR THE CHANGE:**

*"Claim 21 recites in the preamble a method to effect redistribution of said isotope of hydrogen, whereas the body of the claim recites "thereby distributing said isotope of hydrogen within said loaded metal." It is unclear which of the recited steps produces the isotope redistribution."*

[Examiner Palabrica, previous Communication to Applicant, 2/3/03]

290. To comply pursuant to the Examiner's demands, Claim 21 was amended in the Applicant's previous response of March 24, 2003, as follows:

Claim 21 has been amended as follows:

**21. (Amended) In a process for producing heat or a nuclear product using a metal loaded with an isotope of hydrogen, a method to effect redistribution of said isotope of hydrogen in said material which includes in combination:  
applying an electric field to load said isotope of hydrogen into said metal,  
loading said metal with said isotope of hydrogen,  
thereafter applying a second electric field in a non-parallel direction to the first applied electric field, to thereby distributing said isotope of hydrogen within said loaded metal.**

The change was minor, was in response to the Examiner (supra), involved NO NEW MATERIAL and is consistent with Examiner's own statement in his previous Communication to Applicant dated 2/3/03.

**THE EXAMINER'S STATEMENT PROVING THIS IS NOT NEW MATERIAL**

*"In the current application the Applicant does not define the products of the claimed process and apparatus....the only possible "products" that can be formed in the claimed invention are nuclear fusion products. "*

[Examiner Palabrica, previous Communication to Applicant, 2/3/03]

291. Therefore, given the Examiner's own statement (supra), and the original specification and claims consistent with this very material, and the entire previous docket with Examiner Wasil discussing this material, and the submitted Declarations discussing this material, honesty and the normal standards of review demand that this not be regarded as new material. For the Examiner to call "heat" and "nuclear" products new i) AFTER HE DEMANDED IT and ii) when they are both in the original specification and claims, is --with all due respect-- egregious.

292. Next, attention of the Examiner, and if necessary Commissioner and Court, is directed to claim 22. The word "said" replaced the word "the" after the Examiner demanded it in his previous Communication.



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**THE EXAMINER'S SUGGESTION FOR THE CHANGE:**

*"Claims 5 and 22 recite The limitation "the group". There is insufficient antecedent basis for this limitation in the claims."*

[Examiner Palabrica, previous Communication to Applicant, 2/3/03]

293. To comply pursuant to the Examiner's suggestion, Claim 22 was amended in the Applicant's previous response of March 24, 2003, as follows:

Claim 22 has been amended as follows:

22. (Amended) **In a method as in claim 21, where said loaded the material is a member of the group consisting of palladium, titanium, or nickel or their alloys.**

The change was minor, was in response to the Examiner (supra), involved NO NEW MATERIAL.

294. Next, attention of the Examiner, and if necessary Commissioner and Court, is directed to claims 24, 26, and 28. The word "stopped by" replaced the word "impact" after the Examiner demanded it in his previous Communication.

**THE EXAMINER'S SUGGESTION FOR THE CHANGE:**

*"New claims 24, 26 and 28 recite the limitation of "having said redistribution of said isotopic fuel impact a barrier impermeable to said isotopic fuel." There is neither a written description nor an enabling disclosure of: a) what exactly is meant by the term, "impact"; by how and in what manner such redistribution causes the so-called impact a fuel-impenetrable barrier"*

[Examiner Palabrica, previous Communication to Applicant, 2/3/03]

295. To comply pursuant to the Examiner's suggestion, Claims 24, 26, and 28 were amended in the Applicant's previous response of March 24, 2003, as follows:

24.(Amended) **In a method as in claim 21, where the additional step is taken of having said redistribution of said isotopic fuel stopped by impact a barrier impermeable to said isotopic fuel.**

Claim 26 has been amended as follows:

26.(Amended) **In a method as in claim 1, where the additional step is taken of having said redistribution of said isotopic fuel stopped by impact a barrier impermeable to said isotopic fuel.**

Claim 28 has been amended as follows:

28. (Amended) **In a method as in claim 10, where the additional step is taken of having said redistribution of said isotopic fuel stopped by impact a barrier impermeable to said isotopic fuel.**

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The changes were minor, were in response to the Examiner (supra), and involved NO NEW MATERIAL. What does the Office want the Applicant to do? Such behavior by the Examiner, in the light of the Office failing to enforce standards of review and accountability, are probably not appropriate for the Office or any other Federal agency. To the contrary, assistance of, and help for, a citizen of the USA would be more appropriate.

### Conclusion

296. The Office has made an improper and reversible rejection under 35 U.S.C. §112 second paragraph for any of several reasons (vide supra). The Board should reverse this rejection because there is definiteness pursuant to 2173.05(a) because the fact that claim language may not have been precise cannot automatically render the claim indefinite under 35 U.S.C. 112, second paragraph [Seattle Box Co., v. Industrial Crating & Packing, Inc., 731 F.2d 818, 221 USPQ 568 (Fed. Cir. 1984)].

297. The Board should reverse this rejection because the reasoning of In re Prater [415 F.2d 1393, 162 USPQ 541 (CCPA 1969)] indicates that pending claims must be given the broadest reasonable interpretation consistent with the original specification claims and not cut of cloth of other art. Simply put, the claimed invention must be the focus of the definiteness.

**"Respondents' claims must be considered as a whole, it being inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis." [DIAMOND v. DIEHR, 450 U.S. 175 (1981), 450 U.S. 175, No. 79-1112, 3/3/81]**

298. The Board should reverse this rejection because the Examiner was asked to identify with specificity and clear explanation what the rejection is based on [Ex parte Ionescu, 222 USPQ 537,539 (Bd. App. 1984)]. The Examiner has not responded to the fact that 35 U.S.C. 112, second paragraph requires the Examiner had to provide reasons why the terms in the claims and/or scope of the invention are unclear

**"in a positive and constructive way, so that minor problems can be identified and easily corrected, and so that the major effort is expended on more substantive issues."**

299. The Board should reverse this rejection because all definiteness issues were addressed.

300. The Board should reverse this rejection because in summary, there is definiteness because acceptability of the claim language depends on whether one of ordinary skill-in-the-art would understand what is claimed, and that is confirmed by the light of the specification, the Declarations, the Amicus Briefs, and the peer-reviewed publications [Ex parte Porter, 25 USPQ2d 1144, 1145 (Bd. Pat. App. & Inter. 1992)].

301. The Claims submitted for Amendment with submitted changes for entry were minor and did fully comply with the Examiner's stated requirements, and were written so as to narrow the claims to obviate the outstanding rejection.

The rewritten claims also addressed all issues noted by the Examiner and they did not raise new issues or contain any new matter. Attention of the Board is directed to the fact that the proposed amendments were necessary but could not be presented before the partial incomplete constructive assistance was received from the Examiner [requested pursuant to MPEP 707.07(j) and MPEP 706.03(d)].

#### ARGUMENT - REJECTION UNDER 35 U.S.C. 102

302. Appellant acknowledges, but respectfully disputes, for the reasons discussed below said rejection. For each rejection under 35 U.S.C. 102, the Appellant hereby does fully and completely specify the errors in the rejection and why the rejected claims are patentable under 35 U.S.C. 102, including any specific limitations in the rejected claims which are not described in the prior art relied upon in the rejection.

303. The appealed claims do not stand or fall together. Claims 1, 10, and 21 are separately patentable and do not stand or fall together because they are materially distinct with respect to 35 USC 102. Claims 1, 10, and 21 are separately patentable because they are not unduly multiplied, have separate limitations, and are required because the invention described by the original specification of the above-entitled application is very complex.

304. The invention at issue in this case, '691, claimed by Claims 1, 5-8, 10-14, 21-30, is generally speaking a method to control the production of the desired products (such as heat) which includes in combination loading the hydrogen using a first applied electric field, and then at a later point in time applying a second electric field to redistribute said isotopic fuel within said material, with means to obstruct the flow of the loaded hydrogen. Each of these features, and those of the original specification of which this is the divisional, is novel. The original specification describes the subject matter defined by each of the rejected claims, and enables any person skilled in the art to make and use the subject matter defined by each of the rejected claims, and sets forth the best mode contemplated by the inventor of carrying out his invention. The novelty and usefulness of the original specification was demonstrated to be correct at the time of the original filing in Fusion Technology (of the American Nuclear

Society) and elsewhere which demonstrate operability and utility [validation]. These include, but are not limited to, the following: Swartz (1998), Improved Electrolytic Reactor Performance Using  $\pi$ -Notch System Operation and Gold Anodes, Transactions of the American Nuclear Association, Nashville, Tenn 1998 Meeting, (ISSN:0003-018X publisher LaGrange, Ill) 78, 84-85, Swartz. (1997), Fusion Technology, 31, 63-74.

305. The Office states,

*"Claims 1, 5-8, 10-14 and 21-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Westfall (U.S. 5,215,631)."*

Applicant respectfully notes that this was discussed in the previous Communication with the Examiner on pages 17 through 25 and pages 31 to 32. Where is the Examiner's response? Instead, the Examiner, inadvertently or unintentionally appears to just repeat the same question, in a near-decade long effort to deny Applicant both his Constitutional and civil rights.

NOTA BENE: Most importantly, the applicant notes that the application '970 -of which the present invention '691 is a continuation of- was filed 9/17/91 prior to Westfall (June 1st 1993). In addition it precedes the filing date of Westfall (Oct. 11th; 1991).

Nonetheless *in arguendo*, for the sake of argument, the applicant will now discuss Westfall in full detail to demonstrate that even if it was timely, which it is not, and if it were relevant to the present novel invention, which it is not.

306. The Office states that Westfall discloses,

*"Note that appellant's claimed "isotopic fuel" reads on the hydrogen generated by Westfall's aqueous solution and his "material" reads on Westfall's "working electrode."*

**THE TRUTH - Different Purposes. Westfall makes growing crystals at 4.2 feet per hour**

US 5,215,631 discloses a process and an apparatus for growing large crystals by electrodeposition. Westfall, as discussed therein, grows enlarging metal crystals as shown in figures 2a through 2d, therein. Westfall's invention is to produce dendritic crystals and explicitly involves ribbon crystal and crystalline growth systems with growth rates (deposition rates) of 4.2 feet per hour in linear growth rate (column 36 lines 17 through 22). In Westfall, the crystals grow to become freestanding single crystals of tin in its cubic and tetragonal forms. Westfall uses said grown crystals to make photovoltaic cells, as discussed in column 13, lines 55 through 66.

Westfall's crystals, grown at 4.2 feet per hour, do not have the purpose, advanced technology, features, and advantages of the present invention. Unlike Westfall, '691 teaches a method to produce a product which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material. This is clearly shown in the Figures, and discussed, in the original specification of 691.

307. The Office states that Westfall discloses,

*"Westfall discloses a process for growing crystals by electrodeposition. He teaches that his invention has use in growing palladium, titanium and other metal crystals for "cold fusion" electrodes (e.g., see column 1, lines 36+, column 2, lines 37+, and column 3, lines 32+). His method uses the electrolytic apparatus shown in Fig. 1 comprising a bath (4) between a working electrode 8 (where the crystal growth occurs) and a counter electrode (which replenishes the electrolytic solution's concentration of ions of the to-be-deposited material. The bath is used by passing current between the working and counter electrodes (e.g. see column 4, lines 25+). Westfall further discloses that palladium can be deposited from the more common aqueous systems (see column 7, lines 25+). Table I lists metals that can be grown from an aqueous solution, including palladium, and the more common anion and cation components. He teaches that hydrogen is generated in an aqueous system (e.g. see column 9, lines 32+)."*

**THE TRUTH - Different Inventions - Even The surface of Westfall's Electrode changes in Position**

US 5,215,631 discloses a process and an apparatus for growing crystals by electrodeposition. The electrode keeps moving (unlike the present invention) at 4.2 feet per hour (column 36 lines 17 through 22). Westfall --as it claims-- is simply a process and an apparatus for growing crystals in linear growth rate (column 36 lines 17 through 22), useful for freestanding single crystals of tin in its cubic and tetragonal forms. Even the anode used in Westfall is shaped to enhance the rate of growth of the crystal (column 5 lines 43 through 49) using "crucibles ... chosen ... to survive the corrosive nature of the molten salt baths" (column 32 lines 55 through 59). Westfall includes none of the features of the present invention.

By contrast, the present invention is not a process and an apparatus for growing crystals by electrodeposition, but in the preferred embodiment, a method to control the production of heat or nuclear product which includes in combination loading an isotopic fuel into a material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said

material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material and means to extract product using magnetic field inhomogeneity, based differential magnetic susceptibilities. Westfall does not even discuss loading. Thus, the present invention is novel and not anticipated by the cited art, Westfall. Nowhere in Westfall, or in any combination of the Examiner's art, is any aspect of the features of '691.

308. The Office states that Westfall discloses,

*"Westfall further discloses the use of orthogonal electric fields as part of the nucleation manipulation techniques for crystal growth control. He states that orthogonal electric fields are generated by the use of "conformal" counter electrodes with configurations such as wire-tubular, sphere-spherical, cube-cubical torus-toroidal, etc. (see column 24, lines 11+). Westfall also discloses conformal electric fields may be used in combination with one or more nucleation manipulation techniques, such as magnetic fields (see column 24, lines 55+)."*

**THE TRUTH - Different Metals for Different Purposes with Different Loadings**

By contrast to what the Examiner claims, THIS patent yields non-uniform distributions. Furthermore, the cited patent, US 5,215,631 discloses enlarging metal crystals as shown in figures 2a through 2d, therein with growth rates (deposition rates) of 4.2 feet per hour in linear growth rate (column 36 lines 17 through 22; said enlarging metal crystals shown in figures 2a through 2d, therein). The anode used in Westfall is shaped to enhance the rate of growth of the crystal (column 5 lines 43 through 49). In contrast, the original specification and claims of the present invention, '691 claims a method to control the production of heat or nuclear product which includes in combination loading an isotopic fuel into a material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material and means to extract product using magnetic field inhomogeneity, based differential magnetic susceptibilities.

The present invention uses hydrogen INSIDE a metal such as palladium for purposeful reasons, which are clearly different from the ions making large crystals quickly OUTSIDE the metal, such as described in Westfall. Attention is directed to the fact that in Westfall, unlike the present invention, there are enlarging metal crystals, ribbon crystalline growth systems, tin in its cubic and tetragonal forms, and crucibles using molten salt baths.

Westfall's invention, a process and an apparatus for growing crystals of tin in its cubic and tetragonal forms controls ions OUTSIDE of the enlarging metal crystals

(figures 2a through 2d, therein). Westfall refers to saturation OUTSIDE of the metal crystal and is an entirely different teaching from the present invention. Westfall does not even discuss loading into the material (underlined in Examiner's quote for emphasis). Furthermore there is no mention of internal flows within any part of Westfall. Thus, it cannot read on the present invention, a method to produce a product which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material.

309. Corroborating this, Westfall admits that the apparatus of Westfall is no more than a means to a process and an apparatus for growing crystals by electrodeposition with rapid metal growth rates at 4.2 feet per hour (column 36 lines 17 through 22). Westfall admits it makes photovoltaic cells (column 13, lines 55 through 66). Westfall also admits that crucibles must be chosen which are able to survive corrosive molten salt baths (column 32 lines 55 through 59).

310. Attention is directed to the fact that the following elements shown in Westfall are not present, or needed, or claimed in the present invention. Said unneeded elements numbered in Westfall as bath (4, column 8, line 5), reference electrode (14), light source (18), stepping motor (22) and its mechanical connection to the cathode (8) are not needed in the present invention, as described in the original specification and claims, thereby proving the present invention has significant novelty and non-obviousness.

311. As the original specification states (page 1, lines 10-12), ...

**(t)he method and apparatus uses at least two non-parallel electric-fields to control the loading into the material and redistribution of the isotopic fuel within the material."**

The original specification teaches (page 5, lines 14-17), the best mode contemplated by the inventor of carrying out his invention using the first applied electric field intensity (referring to the figures).

**"Figure 2 is a crossectional drawing .... (t)his device has two orthogonal applied electric fields. The first (labelled E-field number 1 in the the figure) is that which is applied to charge the palladium with deuterons."**

Where in Westfall are 691's two orthogonal applied electric fields, or having the second applied electric field intensity delivered after full charging?

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312. The original specification continues (page 5, lines 17-22) with the best mode contemplated by the inventor of carrying out his invention using the second applied electric field intensity.

**"The second applied electric field intensity is delivered after full charging has been achieved. In the figure the anode and cathode are labelled as 7 and 1. The electrolyte solution or gel is labelled as 6. The connections for the first electric field are labelled as 81 and 82. The connections for the second electric field are labelled as 85 and 86. The mechanical casing is labelled 20."**

Where in Westfall are 691's are there separate connections for the applied electric field intensities?

313. The original specification teaches (page 6, lines 1-5) and elaborates for those skilled in the art to make and use the subject matter defined by each of the rejected claims.

**"The cathode in this preferred configuration is divided into parallel slabs. Between these slabs alternate deuteron-impermeable barriers. Application of the second electric field causes the deuterons already loaded in the cathode to redistribute, but the deuteron-impermeable barrier(s) act to enhance the desired reactions."**

Where in Westfall are 691's is the cathode divided into parallel slabs and alternate deuteron-impermeable barriers?

314. The original specification teaches (page 7, lines 1-4), the best mode contemplated by the inventor of carrying out his invention

**"The result is the piling up of deuterium at the deuteron-impermeable barriers (labeled 55). The heat energy is directed out via the the heat pipes and the thermal bus."**

Where in Westfall are 691's is the second electric field is directed through the pairs of barriers and electrode to enhance the desired reactions?

315. The original specification teaches (page 5, lines 23-25) the best mode contemplated by the inventor of carrying out his invention with respect to the impermeable barrier (referring to the figures).

**"The deuteron impermeable barrier is comb-shaped in this preferred configuration, and is labelled 55 in figure 13."**

Where in Westfall are 691's are there deuteron impermeable barriers which are comb-shaped?

These elements of '691 are not present in Westfall.

Therefore, the material of Applicant's invention, '691, does not read on Westfall's process and an apparatus for growing crystals by electrodeposition, as the Examiner suggests.



The apparatus described in Westfall has none of the properties of the apparatus described in the present invention.

This demonstrates they are different patents entirely with different uses, reasons, and methods.

316. The Office states,

*"Note further that claims 8 and 13 are anticipated by Westfall's method that provides for application of magnetic field, in addition to electric fields (e.g. see column 24, lines 59+). As to the specific limitation in claim 8 regarding an "inhomogeneous magnetic field," any applied magnetic field will have "inhomogeneity" because of inherent imperfections in the material (e.g., non-uniform crystal structure) or the source of the magnetic field (e.g., if an a.c. electrical source produces the magnetic field, any voltage fluctuations, which inherently always occur, will cause inhomogeneity in the magnetic field. Appellant's claim language reads on such.*

*As to claim 14, note that the Westfall's working electrode can either be a cathode or an anode (see column 4, lines 26 and 27).*

*Note also that the limitation of claim 10 regarding the electric fields and their sequential application read on Westfall's aqueous electrochemical process. The electric field resulting from application of a voltage between the working electrode and counter electrode, which reads on appellant's "first electric field", primarily causes the movement of ions (including hydrogen ions) from the bath to the working electrode. This process reads on appellant's "loading isotopic fuel to the material." Westfall also discloses that the orthogonal fields, which result from a conformal counter electrode configuration, provide control of nucleation (see column 24, lines 1+). He further discloses that nucleation controls growth of crystals (e.g., see column 5, lines 1+). Conformal electric fields result in near uniform intensities and near uniform ion diffusion distances promoting superior deposition system stability (e.g., see column 24, lines 30+). Therefore, the orthogonal field resulting from a conformal counter electrode configuration and its beneficial effect on crystal formation read, respectively, on appellant's "second electric field" and its effect of "redistribution of the fuel within the material." Clearly, the first electric field must first effect movement of ions from the electrolytic bath towards the working electrode before the orthogonal electric field can effect control of distribution of these ions to form the desired crystal growth. "*

The material of Applicant's invention, '691, does not read on Westfall's process as the Examiner suggests.

When hydrogen appears in Westfall it is not for loading. It is to the air as gas (column 9, line 35 through 43, especially lines 39 referring to "bubbling"). This is different from that used in the present invention which is loaded as taught in '691 in the present invention's original specification and claims, and will be explained in detail below. This "bubbling" of hydrogen in Westfall is different from this application

which involves loading an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material, as discussed in the present invention's original specification and claims.

Furthermore, there is no mention of internal flows in the metal in Westfall. Furthermore, in Westfall all applied fields are synchronous, whereas in '691 they are metachronous (at different points in time).

Furthermore, unlike the present invention, Westfall does not discuss loading. Furthermore there is no mention of internal flows within any part of Westfall. Corroborating this, in the present invention, the hydrogen sought is that within the palladium, which is not even discussed in Westfall.

317. US 5,215,631 discloses a process and an apparatus for growing crystals by electrodeposition which 1) involves ions other than hydrogen, 2) and they are on the OUTSIDE of the metal. Unlike the present invention, Westfall does not discuss loading. Furthermore there is no mention of internal flows within any part of Westfall. By contrast, the original specification and claims of the present invention, '691, claim a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material.

By contrast, in the preferred embodiment of the present invention, this device has two orthogonal applied electric fields with the second applied electric field intensity is delivered after full charging has been achieved. The deuteron impermeable barrier is comb-shaped labelled 55 and the cathode in the preferred configuration is divided into parallel slabs and alternate deuteron-impermeable barriers. Application of the second electric field is directed through the pairs of barriers and electrode to enhance the desired reactions. Where is this in the cited patent?

If the materials and elements used in Westfall, as suggested by the examiner, were to be used in the present invention, they would not function. Furthermore, if the present invention was used as discussed in Westfall, the materials of '691 would not even be functional. Temperatures required for Westfall are such that, "crucibles must be chosen which are able to survive the corrosive nature of the molten salt baths"

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(column 32 lines 55 through 59). If the present invention, '691, was used as described in Westfall, it would not even work.

318. The Office states that Westfall discloses,

*"hydrogen is formed outside the electrode in Westfall and not inside"*

**THE TRUTH - Different Locations of Flow**

Actually, US 5,215,631 discloses growing enlarging metal crystals at impressive growth rates (deposition rates) of 4.2 feet per hour in linear growth rate (column 36 lines 17 through 22), used to make freestanding single crystals of tin in its cubic and tetragonal forms which Westfall then uses to make photovoltaic cells, as discussed in column 13, lines 55 through 66. Unlike the present invention, the anode used in Westfall is the shaped to enhance the rate of growth of the crystal (column 5 lines 43 through 49).

Saturation in the present invention involves LOADING of the hydrogen INSIDE the metal. This has nothing to do with Westfall. The applicant thanks the Examiner for pointing this out since there is a possible point of confusion and the applicant will correct the claims accordingly with replacement of saturation with "loading" which is not new material since it was mentioned in the original specification and claims.

Furthermore, in Westfall all applied electric field intensities are synchronous in time, whereas in '691 they are applied metachronously (at different points in time).

319. The Office states that Westfall reads on,

*"c) it does not have the following features: means to control the distribution, means including barriers impenetrable to flow of isotopic fuel, three separate connections for the applied field intensities; cathode divided into parallel slabs; second electric field directed through pairs of barriers and electrode to enhance the desired reactions; coin-shaped impermeable barriers; "*

**THE TRUTH -Catastrophic Flow differs from Electrochemical Throwing power**

The material of Applicant's invention, '691, does not read on Westfall as the Examiner suggests. Westfall's enlarging metal crystals (figures 2a through 2d, therein) in ribbon crystal and crystalline growth systems have claims and teachings which are not the same as a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material, as discussed in the present invention's original specification and claims.

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320. The Office states that ,

*"...the orthogonal field resulting from a conformal counter electrode configuration and its beneficial effect on crystal formation read, respectively, on applicant's "second electric fields and it's effect of "redistribution of the fuel within the material."*

*"Westfall discloses an electrodeposition process using orthogonal electric fields."*

**THE TRUTH - Different Current Locations, Purposes, Time courses**

Westfall does not disclose orthogonal electric fields as taught in the present invention. The material of Applicant's invention, '691, does not read on Westfall's process and apparatus for growing crystals by electrodeposition, as the Examiner suggests. Westfall's product produces dendritic crystals with growth rates (deposition rates) of 4.2 feet per hour (column 36 lines 17 through 22) to make photovoltaic cells (column 13, lines 55 through 66).

Westfall's invention which is a process and an apparatus for growing crystals by electrodeposition is not the same as a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material.

Therefore, the hydrogen which is OUTSIDE the crystal in Westfall, or producing hydrogen in Westfall, is different in purpose and use AS CLAIMED from the present invention. It is nonsense to consider Westfall's crystal growth being product removed through the growing metal crystal as the same as heat produced in the present invention. The applicant thanks the Examiner for pointing this out since there is a possible point of confusion and the applicant will correct the claims accordingly as it was mentioned in the original specification and claims.

Furthermore, in Westfall all applied electric field intensities are synchronous in time, whereas in '691 they are applied metachronously (at different points in time).

**== ERROR BY EXAMINER REGARDING CONTAMINATION ==**

321. The Office inaccurately states,

*"...the limitation in the claims regarding an alternating barrier to the isotopic fuel, palladium is known in the art to contain gold as an impurity. Gold is a hydrogen isotope barrier as the Applicant himself admits (see claims in the parent application). Therefore, when the palladium coating is formed on the working electrode, inherently gold will also be deposited. Operation of the Wesffall's apparatus and process will inherently also produce alternate coatings of material containing the barrier gold."*

**THE TRUTH - CONTAMINATION QUANTITY IS INSUFFICIENT**

With all due respect, this is inaccurate because the contaminants will electrodeposit and because of the divergence principle (no net creation of palladium so therefore the divergence = 0). The Examiner should have read the books which the Applicant suggested previously regarding this because they are well-known to those familiar with the state-of-the-art. The applied electric field is direct to move cations (i.e.  $\text{Pd}^{++}$ ) to the cathode where it plates out. The Examiner is referred to the following on electrochemistry and continuum electrodynamics, sine qua non to those skilled in the art [Uhlig, H.H., "Corrosion and Corrosion Control", Wiley (1971), BOCKRIS, J., K.N. REDDY, "Modern Electrochemistry", Plenum Press (1970), VON HIPPEL, A. "Dielectric Materials and Applications", MIT Press, (1954); VON HIPPEL, A., D.B. KNOLL, W.B. WESTPHAL, "TRANSFER OF PROTONS THROUGH 'Pure' ICE Ih SINGLE CRYSTALS", J. Chem. Phys., 54, 134, (also 145), (1971), and MELCHER, J.R., "Continuum Electromechanics", MIT Press, Cambridge, (1981). Therefore the Examiners statement is incorrect after the application of the only electric field intensity in Pons, and the first electric field intensity in the present application.

**== ERROR BY EXAMINER REGARDING CONTAMINATION QUANTITY AND LOCATION ==**

322. The Office inaccurately states that nickel is in stainless steel, but as the Examiner twists the cited art, this, too, is inaccurate because the purported contaminant is such a minor inadvertant or essentially unavailable fraction and because of the divergence principle. As the Examiner may have inadvertantly or unintentionally forgot, the applied electric field will move cations (i.e.  $\text{Ni}^{++}$ ) to the cathode where they plates out. Therefore, the Examiner's comment is also inaccurate because the quantity is insufficient and is at the wrong location. There is not enough quantity in the putative contaminants which the Examiner postulates will be electrodeposit. Again, reference is made to the books which the Applicant suggested

Therefore the Examiner's statement is incorrect, and probably would not have been made if the Examiner had calculated the entire volume integral of the cation concentration in the solution and metal, and the availability by corrosion, and then considered the substantially larger quantity of atoms required to achieve the teachings of the present application which then occur at a different location as described in the present application and its parent, of which it is a Divisional. If the present invention, '695, was used as described, it would not even work.

323. In summary, the subject matter of Applicant's invention, '691, does not read on the Examiner's cited art which are not the same as a method to control the production of heat or nuclear product which includes in combination loading an isotopic fuel into a material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material and means to extract product using magnetic field inhomogeneity, based differential magnetic susceptibilities.

Claims 1, 10, 11, 21, 22, and 24-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Kinsella et al. (U.S. 3,682,806). This was discussed in the previous Communication with the Examiner on pages 26 through 32. Where is the Examiner's response? Instead, the Examiner once again, has inadvertently or unintentionally just unfailly asked the same question. Notwithstanding the above, as discussed below, the Applicant demonstrates that said rejection is an error.

324. The Office states,

*"9.6 Claims 1, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kinsella et al. (U.S. 3,682,806). Kinsella et al. disclose a process for electroplating metallic articles with carboxylic film-forming materials utilizing lithium hydroxide as solubilizer (see Fig. I and column 8, 2nd paragraph). Fig. I shows the anode (4), which is the material to be coated, a stainless steel cathode (6).*

*An alternative embodiment can have an auxiliary platinum anode (7) and an auxiliary stainless steel cathode (8). The electrodeposition current flows from the anode (4) to the stainless steel cathode (6).*

*An auxiliary direct current (referred to as "regeneration current") is applied between the auxiliary electrodes, the direction of the current being orthogonal to the direction of the electrodeposition current (see column 9, lines 65+). Note that appellant's "isotopic fuel" in the claim language reads on the lithium anions that*

*form on the anode, "material" reads on "anode", and "orthogonal electric fields" reads on the orthogonal fields produced by the electrodeposition current and the regeneration current. "*

Kinsella --as it claims-- is simply a process for electroplating metallic articles with carboxylic film-forming materials in a process utilizing lithium hydroxide as solubilizer (see Fig. 1 and column 8, 2nd paragraph). Kinsella demonstrates the most rudimentary of an electroplating process and it does not have the purpose, advanced technology, features, and advantages of the present invention. Kinsella, uses a stainless steel cathode, and only a one stage process. Kinsella uses no loading, or has no features of the present application. Corroborating this, from Kinsella, the Examiner quotes that 'Fig. 1 shows the anode (4), which is the material to be coated, a stainless steel cathode (6)'. Furthermore, as additional further proof in Kinsella the text explicitly states, as the Examiner quotes '*An alternative embodiment can have an auxiliary platinum anode (7) and an auxiliary stainless steel cathode (8)*'.

325. Kinsella leads away from the present invention as it uses a cationic membrane to divide the cathodic compartment (number 1 in Kinsella, column 9 line 65), a regenerated ion exchange resin (column 10 line 14), a auxiliary platinum anode ("7", column 10 line 15), a selective electrodialysis membrane to contain ion exchange resin ("9" and "12", column 10 lines 19-23), and a solubilized feed makeup material introduced to the anode ("11", column 10 line 11), which are not needed in the present invention, as described in the original specification and claims.

326. In addition, Kinsella, (page 2, column 2, lines 7-15) teaches the loading current is into the volume of the cathode (in contrast to the cited patent).

Thus, the present invention, unlike Kinsella which uses methods well known to those who work in the art, is not an electroplating process of carboxylic film-forming materials, but in the preferred embodiment is a two-stage process involving loading of hydrogen into a metal electrode such as palladium, including a first stage of electrode loading, followed by, a second stage of sudden rapid ('catastrophic') flow of the loaded hydrogen within the metal. The present invention uses a two-stage process, loading of hydrogen, a metal electrode such as palladium, a first stage of electrode loading, and a second stage of sudden rapid ('catastrophic') flow of the loaded hydrogen within the metal, for purposeful reasons, which are clearly different from the carboxylic film-forming processes described in Kinsella.

327. Corroborating this, attention is directed to the fact that the following elements shown in Kinsella are not present, or needed, or claimed in the present invention. Said unneeded elements numbered in Kinsella as 1 (cationic membrane to divide the cathodic compartment (column 9 line 65), 7 (a auxiliary platinum anode (column 10 line 15), 9 (a selective electrodialysis membrane to contain ion exchange resin (column 10 lines 19-23), and 11 (a solubilized feed makeup material introduced to the anode (column 10 line 11) are not needed in the present invention, as the described in the original specification and claims, thereby proving the present invention has significant novelty and non-obviousness.

328. If the materials and elements used in Kinsella, here the cationic membrane to divide the cathodic compartment (number 1 in Kinsella, column 9 line 65), a regenerated ion exchange resin (column 10 line 14), a auxiliary platinum anode ("7", column 10 line 15), a selective electrodialysis membrane to contain ion exchange resin ("9" and "12", column 10 lines 19-23), and a solubilized feed makeup material introduced to the anode ("11", column 10 line 11), as suggested by the examiner, were to be used in the present invention, they would not function. Similarly, if the present invention, '691, was used as described in Kinsella, it would not be functional.

329. The present invention is a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material. In the preferred embodiment, this device has two orthogonal applied electric fields with the second applied electric field intensity is delivered after full charging has been achieved. The deuteron impermeable barrier is comb-shaped. Where is this in the cited patent?

The materials described in Kinsella do not have the properties of the materials described in the present invention.

The methods described in Kinsella are not the methods described in the present invention.

'691 is novel and not anticipated by Kinsella. Nowhere in Kinsella is any aspect of the features of '691.



330. The Office states,

*"Stainless steel contains nickel, and nickel or its alloys is disclosed by the Applicant as acceptable material (see claim 6).*

*b) Nickel is known in the art to absorb deuterium.-Applicant himself admits to this well-known, scientific fact by his claims."*

**THE TRUTH - The Examiner's Current Analogies are Not Accurate**

It is improper to compare Kinsella's 'electrodeposition current' to the present invention's well taught loading current.

In Kinsella, the loading current is onto the surface of the cathode in contrast to the cited patent which loads the volume for different purpose.

Kinsella electroplates metallic articles with carboxylic films (column 8, 2nd paragraph).

331. Unlike the present invention where there is a specialized palladium (or other hydrogen loading) cathode, in Kinsella, there is only a stainless steel cathode. Corroborating this, from Kinsella, the Examiner quotes that 'Fig. 1 shows the anode (4), which is the material to be coated, a stainless steel cathode (6)'. Furthermore, as additional further proof in Kinsella the text explicitly states, as the Examiner quotes 'An alternative embodiment can have an auxiliary platinum anode (7) and an auxiliary stainless steel cathode (8)'.

332. Further corroborating this, attention is directed to the fact that Kinsella leads away from the present invention as it uses a cationic membrane to divide the cathodic compartment (number 1 in Kinsella, column 9 line 65), a regenerated ion exchange resin (column 10 line 14), a auxiliary platinum anode ("7", column 10 line 15), a selective electrodialysis membrane to contain ion exchange resin ("9" and "12", column 10 lines 19-23), and a solubilized feed makeup material introduced to the anode ("11", column 10 line 11) which are not needed in the present invention, as the described in the original specification and claims. This proves that the present invention has significant novelty and non-obviousness.

333. Attention is directed to the fact that in Kinsella, unlike the present invention where there is a specialized palladium (or other hydrogen loading) cathode, in Kinsella, there is only a stainless steel cathode, only a one stage process, no loading, and no features of the present application.

Even the currents are handled differently. Kinsella, (page 2, column 2, lines 7-15) teaches the loading current is into the volume of the cathode in contrast to the cited patent (infra).

334. The Office states that Kinsella discloses,

*"d) 'Full charging' is not a limitation recited in the claims. All of the claims recite the term 'loading' not 'full charging.' See item c) above*

*e) Claims do not recite how the charging current is to be delivered. See item c) above.*

*As to the issue of alternating barriers and thereby clauses, see section ~ above. The other items raised by the Applicant regarding Kinsella are the same as those discussed in section ~ above."*

**THE TRUTH -REGENERATION CURRENT OUTSIDE A METAL HAS NOTHING TO DO WITH CATASTROPHIC FLOW CURRENT WITHIN A METAL**

'691 teaches and claims a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material.

Kinsella's process is for the purpose of electroplating metallic articles with carboxylic films.

Attention is directed to the fact that Kinsella uses an auxiliary platinum anode ("7", column 10 line 15) which is not needed in the present invention, as the described in the original specification and claims. This proves that the present invention has significant novelty and non-obviousness.

Furthermore, in Kinsella all applied electric field intensities are synchronous in time, whereas in '691 they are applied metachronously (at different points in time).

335. The Office states,

*"Note that applicant's 'isotopic fuel' in the claim language reads on the lithium anions that form on the anode, 'material' reads on 'anode', and 'orthogonal electric fielded reads on the orthogonal fields produced by the electrodeposition current and the regeneration current*

**THE TRUTH - ELECTRODEPOSITION CURRENT IS NOT THE LOADING CURRENT**

The material of Applicant's invention, '691, does not read on Kinsella's an electroplating process carboxylic film-forming materials, as the Examiner suggests.

Kinsella's invention which is an electroplating process carboxylic film-forming materials which cannot be the same as a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the

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distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material.

Kinsella --as it claims-- processes carboxylic film-forming materials with lithium hydroxide as solubilizer (see Fig. 1 and column 8, 2nd paragraph). This cannot read on the hydrogen of the present patent because the applicant uses hydrogen as the loaded material.

In addition, the 'anode' of Kinsella cannot be the 'material' because in the present patent, it is cathodically controlled and used for a different purpose.

336. The 'electrodeposition current' cannot read on 'loading of isotopic fuel into material' because in Kinsella, unlike the present invention where there is a specialized palladium (or other hydrogen loading) cathode, there is only a stainless steel cathode (6). Furthermore, Kinsella uses a cationic membrane to divide the cathodic compartment (number 1 in Kinsella, column 9 line 65), a regenerated ion exchange resin (column 10 line 14), a auxiliary platinum anode ("7", column 10 line 15), a selective electrodialysis membrane to contain ion exchange resin ("9" and "12", column 10 lines 19-23), and a solubilized feed makeup material introduced to the anode ("11", column 10 line 11) which are not needed in the present invention, or used therein for the purposes which Kinsella states. This proves that the present invention has significant novelty and non-obviousness.

As the original specification states (page 1, lines 10-12), ...

**(t)he method and apparatus uses at least two non-parallel electric-fields to control the loading into the material and redistribution of the isotopic fuel within the material."**

337. The original specification teaches (page 5, lines 14-17), the best mode contemplated by the inventor of carrying out his invention using the first applied electric field intensity (referring to the figures).

**"Figure 2 is a crossectional drawing .... (t)his device has two orthogonal applied electric fields. The first (labelled E-field number 1 in the the figure) is that which is applied to charge the palladium with deuterons."**

Where in Kinsella are 691's two orthogonal applied electric fields, or having the second applied electric field intensity delivered after full charging?

338. The original specification continues (page 5, lines 17-22) with the best mode contemplated by the inventor of carrying out his invention using the second applied electric field intensity.

**"The second applied electric field intensity is delivered after full charging has been achieved. In the figure the anode and cathode are labelled as 7 and 1. The electrolyte solution or gel is labelled as 6. The connections for the**

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**first electric field are labelled as 81 and 82. The connections for the second electric field are labelled as 85 and 86. The mechanical casing is labelled 20."**

Where in Kinsella are 691's are there separate connections for the applied electric field intensities?

339. The original specification teaches (page 6, lines 1-5) and elaborates for those skilled in the art to make and use the subject matter defined by each of the rejected claims.

**"The cathode in this preferred configuration is divided into parallel slabs. Between these slabs alternate deuteron-impermeable barriers. Application of the second electric field causes the deuterons already loaded in the cathode to redistribute, but the deuteron-impermeable barrier(s) act to enhance the desired reactions."**

Where in Kinsella are 691's is the cathode divided into parallel slabs and alternate deuteron-impermeable barriers?

340. The original specification teaches (page 5, lines 23-25) the best mode contemplated by the inventor of carrying out his invention with respect to the impermeable barrier (referring to the figures).

**"The deuteron impermeable barrier is comb-shaped in this preferred configuration, and is labelled 55 in figure 13."**

Where in Kinsella are 691's are there deuteron impermeable barriers which are comb-shaped?

These, and other elements of '691, are not present in Kinsella.

341. Kinsella's invention which is an electroplating process carboxylic film-forming materials is not the same as a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material.

**LAW**

342. Appellant respectfully notes that this was discussed in the previous Communication but has not been addressed with specificity and precision. These patents are very different far beyond the fact that they do not involve loading, beyond the fact that they use other components not in the present invention, and have a different purpose and method, and they do not disclose a sequential second applied electric field intensity after full charring has been achieved, and that Kinsella delivers the charging current into the bath instead of the cathode. It is far beyond that. The material of Applicant's invention, '691 does not read on the Examiner's cited art. Furthermore, it is improper to compare Pons to the present invention for several reasons which the Applicant already discussed with the Examiner, but to which the Examiner has NOT yet completely and substantively responded. In particular, as to Section 102 rejections, it is stated in M.P.E.P. 706.2 that:

**'The distinction between rejections based on 35 USC 102 and those based on 35 USC 103 should be kept in mind. Under the former, the claim is anticipated (emphasis added) by the reference.'**

343. In this same connection, The Court of Customs and Patent Appeals said in *In re Arkely, Eardley and Long*, 172 U.S.P.Q. 524, 526 (CCPA, 1972):

**'It is to be noted that rejections under 35 USC 103 are proper where the subject matter claimed 'is not identically disclosed or described'(emphasis by the Court) 'in the prior art,' indicating that rejections under 35 USC 102 are proper only when the claimed subject matter is identically disclosed or described in 'the prior art'.**

344. Therefore, given the above, the independent claims, and hence all claims, distinguish over the reference cited under Sec. 102. Thus, the present invention, a method to control the production of heat or nuclear product which includes in combination loading an isotopic fuel into a material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel, is novel, is not obvious, and does distinguish from all previous art.

Given the above, the Examiner should be fair, should answer the Declarations, should thereby answer the previous Orders of the Board, and should answer with specificity all explicitly discussed issues herein and in the previously submitted but substantially ignored response, or after reconsideration with respect to novelty (Sec. 102), allowance is respectfully requested by the Applicant.

Given the above, reconsideration with respect to novelty (Sec. 102) is respectfully requested by the Appellant.

**ARGUMENTS - Claim Rejections - 35 USC § 103**

345. The Examiner now states:

*"9.8. Claims 8 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Cedzynska et al. in view of Westfall, as applied to claims 1-7, 10-12, 14 and 21-30 above, and further in view of anyone of Edwards, Sadoway (WO 91/06959) or Van Noorden (NL 8909-962-A) or Dufour (WO 91/01 036). The combination of Cedzynska et al. and Westfall discloses the appellant's claims except for the use of magnetic fields in fusion. "*

NOTA BENE: First, this is different from the rejection at Final. The pro se Appellant protests the Examiners attempts to misdescribe, again, the above-entitled invention. The averments above, and below, are incorporated herein.

346. Second, the appealed claims do not stand or fall together. Claims 1, 10, and 21 are separately patentable and do not stand or fall together because they are materially distinct with respect to 35 USC 103. Claims 1, 10, and 21 are separately patentable because they are not unduly multiplied, have separate limitations, and are required because the invention described by the original specification of the above-entitled application is very complex.

347. Third, Appellant respectfully notes that several substantive Arguments discussed have been ignored. As but one example, the Examiner states, *"Applicant's traverse of Edwards, Sadoway, Van Noorden and Dufour are not convincing for reasons similar to those described in sections 8 and 9 above."*, but never for each gives substantive, precise and accurate answers. The Examiner simply ignores the Applicant's explanations and submitted Declarations. Notwithstanding the above, this shall be re-addressed.

348. For each rejection under 35 U.S.C. 103, the Appellant hereby does fully and completely specify the errors in the rejection and the specific limitations in the rejected claims which are not described in the prior art relied on in the rejection. Appellant also explains how such limitations render the claimed subject matter unobvious over the prior art.

**BACKGROUND: Westfall (US 5,215,631)**

349. The Office states,

*"2A The combination of Cedzynska et al. and Wesffall disclose the applicant's claims except for the use of magnetic fields in fusion."*

**THE TRUTH - Different Purposes. Westfall makes growing crystals at 4.2 feet per hour**

The applicant notes that the application '970 -of which the present invention '691 is a continuation of- was filed 9/17/91 prior to Westfall (June 1st 1993). In addition it precedes the filing date of Westfall (Oct. 11th, 1991). Nonetheless *in arguendo*, for the sake of argument, the applicant will now discuss Westfall in full detail to demonstrate that even if it was timely, which it is not, and if it were relevant to the present novel invention, which it is not.

350. US 5,215,631 discloses a process and an apparatus for growing large crystals by electrodeposition. Westfall, as discussed therein, grows enlarging metal crystals as shown in figures 2a through 2d, therein. Westfall's invention is to produce dendritic crystals and explicitly involves ribbon crystal and crystalline growth systems with growth rates (deposition rates) of 4.2 feet per hour in linear growth rate (column 36 lines 17 through 22). In Westfall, the crystals grow to become freestanding single crystals of tin in its cubic and tetragonal forms. Westfall uses said grown crystals to make photovoltaic cells, as discussed in column 13, lines 55 through 66.

351. Westfall's crystals, grown at 4.2 feet per hour, do not have the purpose, advanced technology, features, and advantages of the present invention. Unlike Westfall, '691 teaches a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material. This is clearly shown in the Figure 2, and discussed, in the original specification of 691.

Furthermore, in Westfall all applied electric field intensities are synchronous in time, whereas in '691 they are applied metachronously (at different points in time).

This indicates that the Office is disingenuous toward the *pro se* Appellant.

**BACKGROUND: Cedzynska et al. (WO 93/01601)**

352. The Office states,

*"9.7 Claims 1, 5-7, 10-12, 14 and 21-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Cedzynska et al. (WO 93/01 601) or Edwards (WO 90/15416) in view of Westfall. Either one of Cedzynska et al. or Edwards et al. disclose the appellant's claims except for the orthogonal electric fields. Cedzynska et al. (WO 93/01601) is a rudimentary Fleischmann-pons system which has the modification of "alternately charging and discharging electrodes".*

Cedzynska et al. (WO 93/01601) has a filing day of July 8, 1992. The applicant notes that the application '970 -of which the present invention '691 is a continuation of- was filed 9/17/91. Nonetheless *in arguendo*, for the sake of argument, the applicant will now discuss Cedzynska in full detail to demonstrate that even if it was timely, which it is not, and if it were relevant to the present novel invention, which it is not.

In fact, attention is directed to the fact that Cedzynska leads away from the present invention as it uses a rudimentary Fleischmann-Pons system and "alternately charging and discharging electrodes". This proves that the present invention has significant novelty and non-obviousness. Cedzynska et al. does not have any of the features of the present invention.

**BACKGROUND: Edwards (WO 90/15416)**

353. The Office states,

*"Edwards discloses a method for production of thermal energy comprising passing an electric current through electrodes immersed in a liquid electrolyte containing a higher isotope of a low atomic weight atom and applying a magnetic influence to the electrolyte or one or each electrode. The electrolyte may contain lithium and the electrode can be palladium or titanium (see Figs. 1 and 2, and claims). As discussed in section 9.5 above, Westfall discloses an electrodeposition process using orthogonal electric fields"*

In fact, Edwards (WO 90/15416) is a simple system with a rudimentary magnetic field "to distort electrically charged species forming during the electrolysis process at the anode or cathode to control the rate of fusion of charge atoms" (page2, lines 15 through 18). The orientation is not given. Electrolysis is taught. In fact, attention is directed to the fact that Edwards leads away from the present invention as it uses a simple Fleischmann-Pons system and a rudimentary magnetic field "to distort electrically charged species forming during the electrolysis process at the anode or cathode to control the rate of fusion of charge atoms" (page2, lines 15 through 18). The orientation is not given. Electrolysis is taught. Edwards does not have any of the features of the present invention.